DEVELOPMENT OF A WHEY BASED SPORT RECOVERY BEVERAGE

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Whey is a byproduct of cheese making and casein manufacturing in the dairy industry. In addition whey proteins are well known for their high nutritional value and versatile functional properties in food products. Developed countries produce different food products adding whey such as cheese, butter and different types of drinking items. Developing countries like Sri Lanka, cheese producers cannot engage in producing such kind of products due to lack of necessary equipment and technology. The equipment required to convert whey into food and animal feed products often cost more than companies can afford, and which cause companies often rely on land spreading to dispose of the whey byproducts. The study was carried out to develop a whey based sport recovery beverage using cheese whey. Cheese whey, glucose, ascorbic acid were used as the main ingredients and the role of each ingredient in the processing of the product was examined. Series of Sensory evaluation was carried out to find the best sample for the recovery beverage. Data were collected from 3 samples and were analyzed by using the Minitab 14 software via Friedman test. Finally, proximate analysis, shelf life and cost analysis were determined by evaluating the most sensory scored sample. Treatment with 1L of whey, 10 g of chocolate powder, 80 g of glucose, 0.9 g of ascorbic acid were used prepare to final product. According to the results obtained from proximate analysis beverage is consisted with 0.70% of protein, 0.13% fat, 4.17% of carbohydrate, 1.2% of minerals, 12.4% of total soluble solid and 93.86% of moisture. Proximate analysis results gives the conclusion that due to the high percentage of protein and low fat percentage this beverage is very suitable for energy consuming athletes as a recovery beverage. According to the titrable acidity and pH values, the self-life of the sport drink was estimated which was two weeks. Therefore newly developed sport recovery beverage can be consumed within two weeks. Cost analysis estimated LKR 76.90. It is important to introduce new whey processing method in Sri Lanka such as whey condensing, drying so new whey products can reach the market.

Keywords: *Whey, Protein, Sport recovery beverage, Shelf life*